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# Atlona 2x2 HDMI Matrix Switcher

AT-HD-V22M

## User Manual





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## INTRODUCTION

Atlona Technologies' AT-HD-V22M is a 2x2 HDMI Matrix Switcher with audio designed to work as a switcher for multiple Audio/Video sources and displays. This Atlona unit is capable of switching HDMI signals between two sources and two displays. Because it is a matrix switch, any or all of the 2 inputs can simultaneously be switched to any or all of the outputs. This device will support high definition video in multiple resolutions of up to 1080p or 1920x1200. This unit has quick and easy installation. With manual, RS232, as well as IR Remote control options, Atlona's AT-HD-V22M Matrix Switcher is HDCP Compliant making it is perfect for all HDMI devices, PC monitors, Plasma TV displays and HDTVs.

## PACKAGE CONTENTS:

- 2x2 HDMI Matrix Switcher (AT-HD-V22M)
- Instruction Manual
- IR Remote Control
- Universal AC/DC power adapter: 12VDC
- 19 inch Ear mount pair
- IR Extender receiver
- RS232 package (RS232 DVD Drive & RS232 Cable)

## FEATURES:

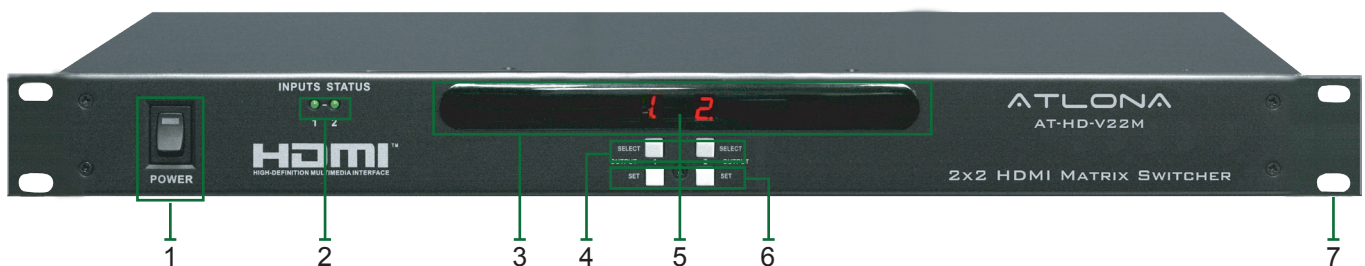
- Switches HDMI Video signal with Audio between 2 sources and 2 displays.
- Matrix Switch: each input can be directed to any or all outputs at the same time
- Quick and easy installation
- HDMI digital video/audio format, DVI format and HDCP compliant
- Supports link speeds of up to 2.25 Gbps (link clock rate of 225 MHZ)
- Supports wide range of PC resolutions from XGA to UXGA 1600x1200 and HDTV/DTV resolutions 480i/480p, 576i/576p, 720p, 1080i, 1080p, and 1920x1200
- Compatible with all HDMI devices, PC monitors, Plasma TV display and HDTV
- Supports Digital Video TMDS formats in Deep Color 12bits
- Support IR Remote and IR Extender with distance 300M Maximum.
- Various User Interface control:
  - IR remote control
  - Manual controlled by Front Panel button
  - Attached Window based control software for Desktop or NB control by RS232 port
- Automatically scanning input status by LED on front panel

## SPECIFICATIONS:

- 2x2 HDMI Matrix Switcher: 2 HDMI Inputs To 2 HDMI Outputs,
- Input Signals: Video (TMDS) 0.5~1.0Vpp, DDC 5Vpp
- Signal Supports : HDMI Standard, DVI and HDCP Compliant
- Video Supported: HDMI formats up to 1080p or 1920x1200 and DVI UXGA 1600x1200 HD resolutions.
- Audio Supported: DTS-HD Master Audio, Dolby True -HD & Dolby Digital Plus
- Supports digital video standards such as:
  - RGB/YCBCR: 24/30/36-bits
  - YCBCR: 8/10/12/16/20/24-bits
  - Double data rate interface for RGB/YCBCR: 12/15/18-bits
- Controls: IR, IR EXT, RS232, and Select buttons on the front panel
- Data Rates: 250Mbps to 2.25Gbps.
- IR Extender Distance: 300 meters maximum.
- IR frequency: 38KHz.
- Safety Approvals: CE, FCC, RoHS(2002/95/EC).
- Power Supply: 12V DC
- Use Universal Switch Type 50/60Hz,100~230 VAC

## PANEL DESCRIPTIONS:

### 1. Front Panel



1. POWER SWITCH. The power switch turns the unit on and off. The LED will illuminate red to indicate that the switcher is ON
2. INPUT SOURCES STATUS DISPLAY. Input sources 1 to 2 LEDs illuminate blue to indicate desired video source is present on that input.
3. OUTPUT SOURCES STATUS DISPLAY. Output Status shows by LED display.
4. SOURCES SELECT BUTTONS. Separate outputs 1 ~ 2 source select buttons are provided. Select sources are 1-HDMI, 2-HDMI.
5. IR SENSOR. The IR sensor receives IR commands from the supplied remote control.
6. SOURCE SETUP BUTTONS. Setup the inputs 1 ~ 2
7. 19 INCH EAR MOUNT PAIR. 19 inch case Ear Mount pair



## 2. Rear Panel



1. DC POWER INLET. Power Input: 12VDC
2. IR EXTENDER CONTROL. Support one of IR Extender' extend distance maximum 300 Meters.
3. RS 232 CONNECTION. DB-9pin Female connector for serial RS-232 control.
4. VIDEO INPUTS: HDMI Inputs 1, 2. HDMI Female connector. (Unit can be used with HDCP compliant DVI digital video signals with appropriate)
5. VIDEO OUTPUTS: HDMI Outputs 1, 2. HDMI Female connector. (Unit can be used with HDCP compliant DVI digital video signals with appropriate)

### REMOTE CONTROL

Ensure the mains voltage supply matches the label on the supplied plug-Pack (+/- 10%)

Ensure that the power switch is OFF

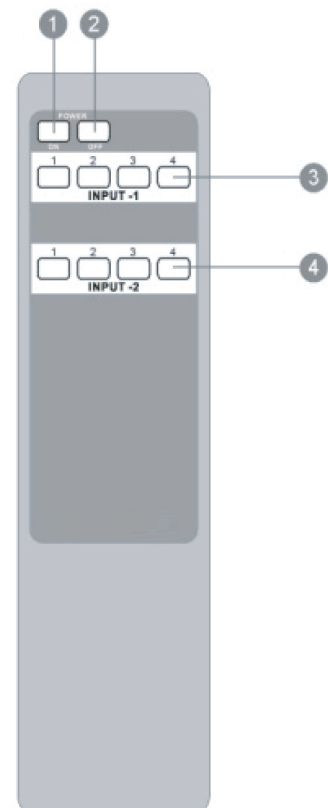
Connect all audio video sources and destination equipment

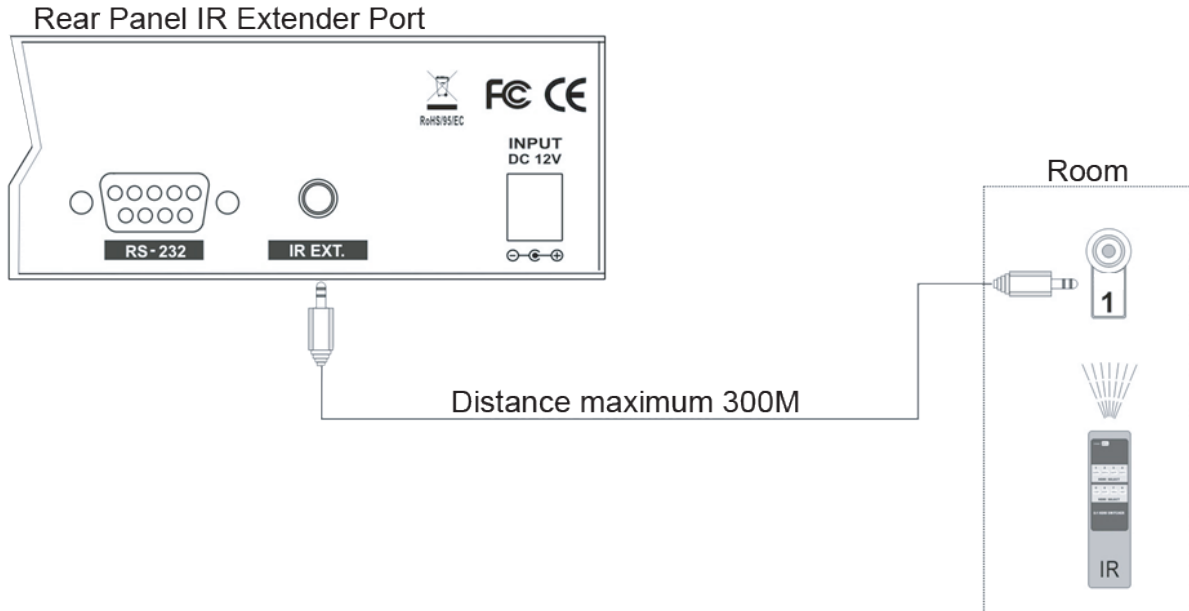
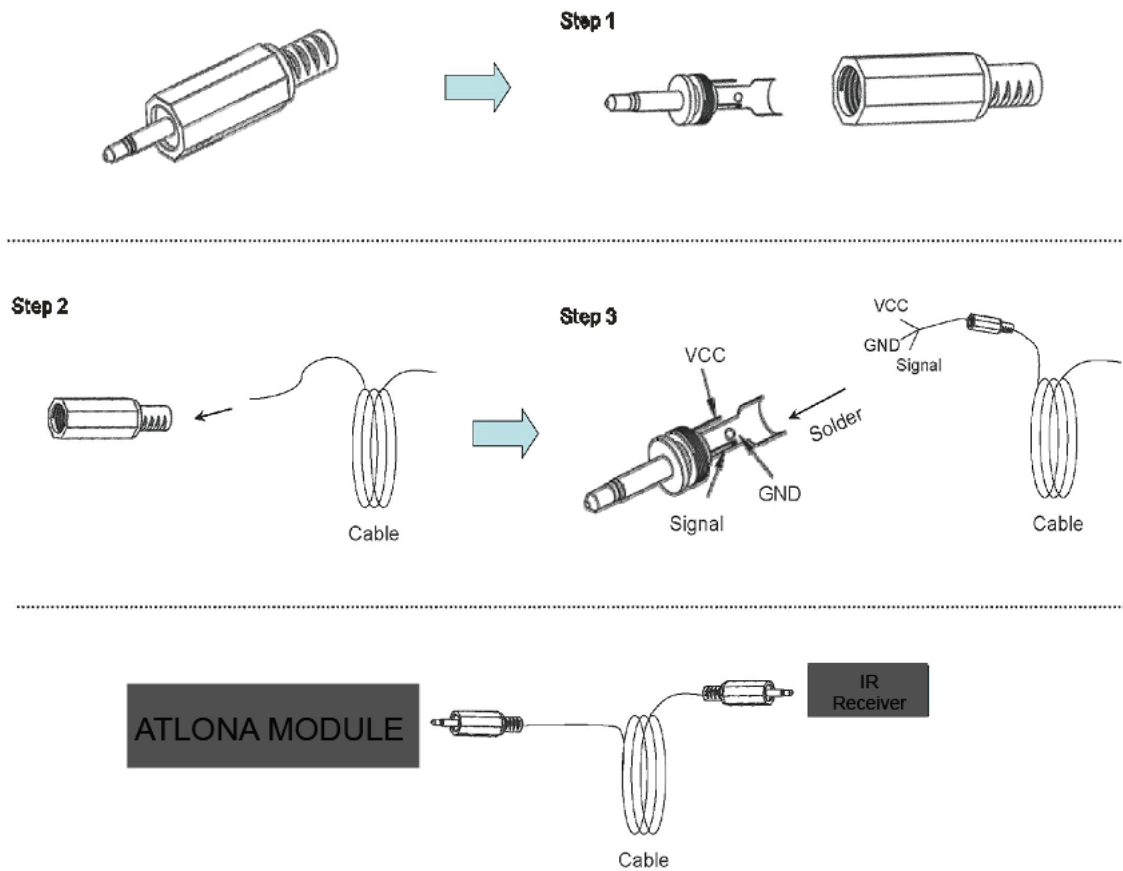
Power up all HD Source and Displays

For each desired output select the appropriate input by using the front panel select buttons, IR remote control, or the RS232 serial communications port.

When powering up the AT-HD-V22M will return to its last used setting before Powered down.

- 1,2. SWITCH POWER ON or OFF
3. INPUT 1 SOURCES SELECTION  
(Select sources with selection button)
4. INPUT 2 SOURCES SELECTION  
(Select sources with selection button)

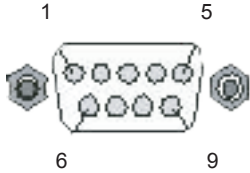


**IR EXTENDER**
**1. IR Extender Connection**

**2. IR Extender Package**


## RS 232

### 1. RS-232 Serial Interface

RS-232 serial interface connect a PC or Control System



Pin	RS-232	
1	-	Not used
2	Tx	Transmitter
3	Rx	Receiver
4	-	Not used
5	GND	Ground
6	-	Not used
7	-	Not used
8	-	Not used
9	-	Not used

### 2. RS-232

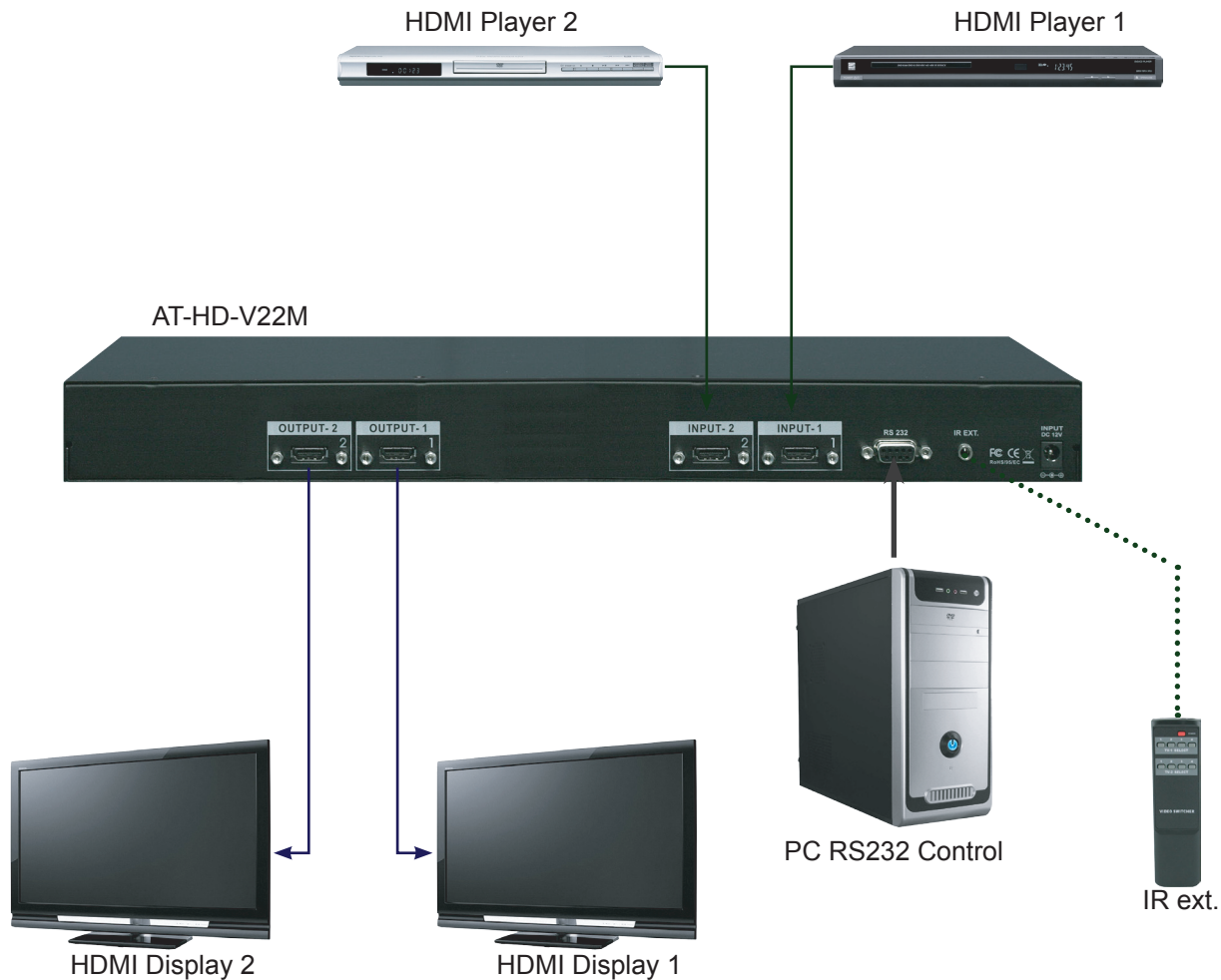
Atlona Technologies' switcher can be controlled via the RS-232 serial control port to allow for interfacing to a PC, The serial communication parameters are 9600 baud, 8 bit, No Parity and 1 stop bit - this is often referred to as 9600 8N1.

When the unit recognizes a complete command it will perform the requested action - there is no delimiter character required. The unit does not send out a message when a value is changed from the front panel or by IR control. If the unit needs to be controlled via the front panel in addition to the RS232 control, you should regularly poll the unit status to ensure the control system accurately reflects the current settings or similar third party control system.

### 3. Commands

Code entry is **CASE SENSITIVE** Do not insert space between letter/number code entries

PWON	Power ON
PWOFF	Stand-by
All#	Mirror all input signals to matching output channels.
x1\$	Switch off output channel [x1].
x1AVx2	Transfer the audio video signal from input channel [x1] to output channel [x2]. <b>Example: input 5 needs to be sent to output 6, the command would be x5AVx6</b>
x1AVx2,x3,x4	Transfer the audio and video signals from input channel [x1] to output channels [x2], [x3] and [x4].
Statusx1	Displays input status associated to output [x1].
Status	Displays all input and output associations for all channels.
Save[Y]	Save the current status to a preset command [Y]. [Y] ranges from 0 to 9.
Recall[Y]	Recall the preset command [Y].
Clear[Y]	Clear the preset command [Y].

**CONNECTION AND INSTALLATION**


*Note: If connecting the outputs to both displays and AV receivers, the audio output will only be stereo due to the display are only able to handle PCM or Stereo Audio through HDMI inputs. If all devices are AV receivers then multi-channel audio such as Dolby TrueHD and DTS-HD can be output. Likewise, the switcher will also look at the resolution of all flat panels connected and output the resolution of the lowest display. For example: If three TV's are 1080p and one is 720p, the output to all TV's will be 720p To achieve 1080p across all displays, no matter what their resolution is, take a look at the AT-HD560 and AT-HD550 both are up/down scalers which can take any resolution and turn it to whatever the displays native resolution is.*

## Safety Information

### Safeguards



To reduce the risk of electric shock, do not expose this product to rain or moisture



If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.



Do not modify the wall plug. Doing so will void the warranty and safety features.



This equipment should be installed near the socket outlet and the device should be easily accessible in the case it requires disconnection.

### Precautions

FCC regulations state that any unauthorized changes or modifications to this equipment, not expressly approved by the manufacturer, could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product, or cause fires.

In the event of an electrostatic discharge this device may automatically turn off. If this occurs, unplug the device and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements, fish tanks, and swimming pools.

Use only accessories recommended by Atlona to avoid fire, shock, or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning and not cleaning fluid or aerosols. Such products could enter the unit and cause damage, fire, or electric shock. Some substances may also mar the finish of the product.

Never open, remove unit panels, or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your AT-HD-V22M. Opening the product will void the warranty.

Do not attempt to service the unit. Disconnect the product and contact your authorized Atlona reseller or contact Atlona directly.

## Warranty

### Limited Warranty

Atlona Technologies warrants that (a) its products (the AT-HD-V22M) will perform substantially in accordance with the accompanying written materials for a period of 3 years from the date of receipt and (b) that the product will be free from defects in materials and workmanship under normal use and service for a period of 3 years. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 3 years from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to customers that fall within those areas.

### Customer Remedies

Atlona Technologies' and its suppliers' entire liability and Customer's exclusive remedy shall be, at Atlona Technologies' decision, either return of the price paid for the product, repair, or replacement of the product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of the Customer's receipt. This Limited Warranty is void if failure of the product has resulted from accident, abuse, misapplication, or natural occurrence. In example but not limited to: power surges (electrical storms, local power outage), dropping the product (or items on the product), contact with fluids, and physical misconduct (i.e. kicking or punching). Any replacement product will be warranted for the remainder of the original warranty period.

### No other warranties

To the maximum extent permitted by applicable law, Atlona Technologies and its suppliers disclaim all other warranties, either expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with regard to the product and any related written materials. This Limited Warranty gives customer specific legal rights. Customers may have other rights depending on the jurisdiction.

### No liability for damages

To the maximum extent permitted by applicable law, in no event shall Atlona Technologies or its suppliers be liable for any damages arising out of the use of or inability to use this product, even if Atlona Technologies has been advised of the possibility of such damages. Such damages include but are not limited to: special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss. Atlona Technologies' and its suppliers' entire liability under any provision of this agreement shall be limited to the amount actually paid by you for the product. Some Jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damage. The above limitations may not apply to you in such jurisdictional cases.



## Atlona Product Registration

Thank you for purchasing this Atlona product. - We hope you enjoy it and will take an extra few moments to register your new purchase.

Registration creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona, we respect and protect your privacy, assuring you that your registration information is completely secure. Atlona product registration is completely voluntary and failure to register will not diminish your limited warranty rights.

To register go to: <http://www.atlona.com/registration>